



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/648,314	08/27/2003	Masaki Oikawa	00862.022604.1	4872
5514	7590	05/21/2004	EXAMINER	
FITZPATRICK CELLA HARPER & SCINTO			NGUYEN, LAM S	
30 ROCKEFELLER PLAZA			ART UNIT	
NEW YORK, NY 10112			PAPER NUMBER	
			2853	

DATE MAILED: 05/21/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/648,314

Applicant(s)

OIKAWA, MASAKI

A

Examiner

LAM S NGUYEN

Art Unit

2853

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 34-37 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 34-37 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 27 August 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☒ Certified copies of the priority documents have been received in Application No. 10/150,917.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 08/27/2003.

- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

1. Claims 34-37 are rejected under 35 U.S.C. 103(a) as being unpatentable over Imanaka et al. (JP 409174847A) in view of Takahashi (US 5736994).

Imanaka et al. disclose an image printing apparatus for driving a plurality of blocks by time division to print an image, each block having a predetermined number of printing elements grouped from a plurality printing elements (Abstract: the printhead has 32 heaters divided in 8 blocks that are driven in time division), comprising:

first driving means for driving blocks by supplying a main pulse for discharging ink from printing elements of a block every divided period (Abstract: “a main pulse is applied to the block 8 in each of the divided initial and last time zones”);

second driving means for driving blocks by supplying a main pulse for discharging ink from printing elements of a block during one of divided periods, and supplying at least one preheating pulse for preheating the printing elements of the block but not to discharge ink during at least one other of the divided periods, wherein a number of the divided periods is two (**Referring to claim 35**) (Abstract: “the prepulse and main pulse are applied to the recording elements of the same block over the two divided time zones”).

Imanaka et al. do not disclose image printing means for selecting either one of said first and second driving means in accordance with a temperature of a printhead, and printing the image using the selected driving means (**Referring to claims 34, 37**).

Takahashi discloses an ink jet apparatus having a printhead driven by one of two waveforms, the first waveform includes a jet pulse (FIG. 5, waveform 10) and the second waveform includes a jet pulse and a non-jet pulse (FIG. 5, waveforms 20A-20D). The inkjet apparatus also comprises a selector that selects one of the waveforms in accordance to a detected temperature (FIG. 9, steps S4-S6).

Therefore, it would have been obvious for one having ordinary skill in the art at the time the invention was made to modify the printing apparatus disclosed by Imanaka et al. such that including the selector for selecting either one of the waveforms in accordance with the temperature of a printhead as disclosed by Takahashi. The motivation of doing so is to prevent variations in an ink jet velocity caused by variations in temperature in order to provide superior print quality as taught by Takahashi (Abstract).

Imanaka et al. also disclose the following claimed invention:

Referring to claim 36: wherein said second driving means performs one ink discharging using the at least one preheating pulse and the main pulse in successive divided periods (paragraph [0012] and FIG. 7-8).

Conclusion


Any inquiry concerning this communication or earlier communications from the examiner should be directed to LAM S NGUYEN whose telephone number is (571)272-2151. The examiner can normally be reached on 7:00AM - 3:30PM.

Art Unit: 2853

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, STEPHEN D MEIER can be reached on (571)272-2149. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

LN
May 14, 2004


HAI PHAM
PRIMARY EXAMINER